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| 09/925,331 | 08/10/2001 | Kristiaan Johan Hubert Ghislanus Venken | Q65268 | 6160 |

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| EXAMINER | |
|---|---|
| QURESHI, AFSAR M | |
| ART UNIT | PAPER NUMBER |
| 2616 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 03/28/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/925,331 | VENKEN ET AL. | |
| | Examiner | Art Unit | |
| | Afsar M. Qureshi | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1 and 3-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-15* is/are allowed.

6)☒ Claim(s) *1 and 3-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. This Office action is follow-up to Pre-Brief Appeal Conference decision mailed on 1/22/2007.

### *Response to Arguments*

2. Applicant argued, filed in the "Pre-Brief Conference Request", dated 10/20/2006, that system disclosed by Zheng et al. (US 5,745,477) does not disclose plurality of network termination elements, as claimed in the preamble of claim 1. The destination end system 44, disclosed by Zheng et al. was discussed in the Response to Arguments, Final Rejection dated 7/20/2006. However, in view of the Applicant's arguments on page 4, 1st paragraph, Examiner has withdrawn rejection under 35 USC 102 (b). A new obviousness rejection follows.

Applicant's argument, page 3, first paragraph, where Applicant argued that claim 1 describes the input/output rate of the buffering element as being adjusted in accordance with at least one bandwidth related condition of the network termination element. However, Examiner contents that this is, inadvertently, the same as congestion (bandwidth related condition). Zheng discloses backward RM cells 56 that read congestion information contained in the cells set by ATM network and destination end system.

Similarly, Applicant argues, in reference to claims 10 ad 11, Zheng does not teach that receiver allocates bandwidth amongst plural network termination elements.

Examiner believes that this limitation is not claimed in the said claims. Further, buffer, disclosed by Zheng, includes PRQ 88 and ABR table 86, is coupled to line termination element (receiver 85 and transmitter 84) that clearly reads on said claims (also see col. 4, lines 1-9).

Examiner contends that, for most part, other arguments were responded to in the 'Response to Arguments' in Final rejection (7/20/2006).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3 and 7-11are rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. (US 5,745,477) in view of Ikeda (US 6,072,775).

As to claims 1, 3, 10 and 11, Zheng et al. ("Zheng" hereinafter) disclose a communication system comprising the following features: regarding claim 1, a communication method for a communication network comprising a buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60), a line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) and a plurality of network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10), said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) being-coupled to said line termination element

(Fig. 5, RECEIVER 85, TRANSMITTER 84), and said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) being-coupled to each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; source end system 40 receives backward RM cells 56, reads congestion information contained in the cells which is set by ATM network 46 and destination end system 44 and adjusts cell transmission rates accordingly (fig. 2, col. 3, lines 53-57; and other end system not shown in ATM NETWORK 10) over a shared medium, wherein said communication method comprises interacting between said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) and said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) to adjust (Fig. 5, ABR CONTROLLER 82, TRAFFICE SHAPER 80; column 4, lines 1-9) a cell input/output rate of said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) to at least one bandwidth related condition (Fig. 2, BACKWARD RM CELLS) of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10), wherein said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) notifies said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) to adjust (Fig. 5, ABR CONTROLLER 82, TRAFFICE SHAPER 80; column 4, lines 1-9) said cell input/output rate of said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) to said at least one bandwidth related condition of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10); regarding claim 3, a communication method for a communication network comprising a buffering

element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60), a line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) and a plurality of network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10), said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) coupled to said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84), and said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) coupled to each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10) over a shared medium, wherein said communication method comprises interacting between said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) and said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) to adjust (Fig. 5, ABR CONTROLLER 82, TRAFFICE SHAPER 80; column 4, lines 1-9) a cell input/output rate of said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) to at least one bandwidth related condition (Fig. 2, FORWARD RM CELLS) of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10), wherein said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) notifies said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) to adjust (Fig. 5, ABR CONTROLLER 82, TRAFFICE SHAPER 80; column 4, lines 1-9) said at least one bandwidth related condition of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10) to said cell input/output rate of said buffering element

(Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60); regarding claim 10, a buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) to be used in a communication network, said communications network comprising a line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) and a plurality of network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10), said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) being-adapted to allocate bandwidth to each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10), said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) coupled to said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84), and said line termination element (Fig. 5, RECEIVER 85, TRANSMITTER 84) being coupled to each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end system not shown in ATM NETWORK 10) over a shared medium, said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) comprising: a buffering part (Fig. 5, MEMORY 70), adapted to store cells sent to said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60); a measuring part (Fig. 5, TRAFFIC MANAGEMENT SYSTEM 60), coupled with an input to an output of said buffering part and adapted to determine a criterion based on a cell input/output rate of said buffering part; and an interpreting part (Fig. 5, TRAFFIC MANAGEMENT SYSTEM 60), coupled with an input to an output of said a measuring part and adapted to generate an interpretation of said criterion based on said cell input/output rate of said

buffering part (Fig. 5, MEMORY 70), wherein said buffering element (Fig. 5, MEMORY 70, TRAFFIC MANAGEMENT SYSTEM 60) further comprises: a notification part, coupled with an input to an output of said interpreting part and adapted to notify (Fig. 2, FORWARD RM CELLS) said line termination (Fig. 5, RECEIVER 85, TRANSMITTER 84) of said interpretation of said criterion based on said cell input/output rate of said buffering part (Fig. 5, MEMORY 70); regarding claim 11, wherein said criterion is a characteristic (column 4, lines 54-59) of cells sent to said buffering element. See column 1-8.

As to claims 7-9, Zheng et al. discloses a communication system comprising the following features: regarding claim 7, a line termination element (Fig. 5, NETWORK INTERFACE CONTROLLER 62) to be used in a communication network, said communication network comprising a buffering element (Fig. 5, MEMORY 70) and a plurality of network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10), said buffering element (Fig. 5, MEMORY 70) being coupled to said line termination element (Fig. 5, NETWORK INTERFACE CONTROLLER 62), and said line termination element being coupled to each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10) over a shared medium, said line termination element (Fig. 5, NETWORK INTERFACE CONTROLLER 62) comprising : a detection part (Fig. 5, RECEIVER 85; TRANSMITTER 84), adapted to detect at least one condition of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM

NETWORK 10); and a condition interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80), coupled with an input to an output of said detection part (Fig. 5, RECEIVER 85; TRANSMITTER 84) and adapted to derive an interpretation of said at least one condition of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10), wherein said line termination element (Fig. 5, NETWORK INTERFACE CONTROLLER 62) further comprises: a notification part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) , coupled with an input to an output of said condition interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) and adapted to notify said buffering element (Fig. 5, MEMORY 70) of said interpretation of said at least one condition of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10); regarding claim 8, wherein said condition interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) is adapted to derive a bandwidth allocation for each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10), based on said at least one condition of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10); regarding claim 9, wherein said condition interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) is adapted to transparently pass said at least one condition of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10). See column 1-10.

Zheng does not expressly disclose 'plurality of network termination elements' , as claimed herein, but instead discloses only one element by way of example. However, Ikeda, in the same field of endeavor, clearly discloses a source end system connected through multiple virtual channels to plurality of destination end systems. Both Zheng and Ikeda are concerned with traffic control method for controlling source user traffic on an access link to ATM network, it would have been obvious to one of ordinary skill in the art, at the time of invention, to be able to incorporate more than one destination end units in order to have an efficient traffic management system for ATM network interface controllers to handle RM cells and adjust cell transmission rates accordingly.

4. Claims 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. (US 5,745,477) in view of Soumiya et al. (US 6,094,418).

Zheng et al. discloses a communication system comprising the following features: regarding claim 4, buffering element to be used in a communication network, said communications network comprising a line termination element (Fig. 5, RECEIVER 85; TRANSMITTER 84) and a plurality of network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10), said buffering element being coupled to said line termination element (Fig. 5, RECEIVER 85; TRANSMITTER 84), and said line termination element (Fig. 5, RECEIVER 85; TRANSMITTER 84) being coupled to each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10) over a shared medium, said buffering element comprises: a

buffering part (Fig. 5, MEMORY 70) adapted to store cells sent to said buffering element; a measuring part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) , coupled with an input to an output of said buffering part (Fig. 5, MEMORY 70) and adapted to determine a criterion based on a cell input/output rate of said buffering part (Fig. 5, MEMORY 70); an interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80), coupled with an input to an output of said measuring part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) and adapted to interpret said criterion based on said cell input/output rate of said buffering part (Fig. 5, MEMORY 70) , wherein said buffering element further comprises: a reception part, coupled with an output to an input of said interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) and adapted to receive a notification (Fig. 2, BACKWARD RM CELLS) of said line termination containing an interpretation of at least one condition of each of said network termination elements (Fig. 1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10), and that said interpreting part (ABR CONTROLLER 82, TRAFFIC SHAPER 80) is adapted to derive said instruction from said notification (Fig. 2, BACKWARD RM CELLS) of said line termination on said interpretation of said at least one condition of each of said network termination elements (Fig. '1, DESTINATION END SYSTEM 14; and other end systems not shown in ATM NETWORK 10); regarding claim 5, wherein said criterion is a characteristic (column 4, lines 54-59) of cells sent to said buffering element. See column 1-10.

Zheng et al. does not disclose the following features: being adapted to derive therefrom an instruction for a policing part whether or not to discard or mark said cells sent to said

buffering element, a policing part, coupled with an input to an output of said interpreting part and adapted to discard or mark said cells sent to said buffering element, based on said instruction of said interpreting part.

Soumiya et al. discloses a communication system comprising the following features: being adapted to derive therefrom an instruction for a policing part (Fig. 3, UPC FOR ABR 4, column 3, lines 60-62) whether or not to discard or mark said cells sent to said buffering element (Fig. 7, SHARED BUFFER MEMORY 21), a policing part (Fig. 3, UPC FOR ABR 4, column 3, lines 60-62), coupled with an input to an output of said interpreting part and adapted to discard or mark said cells sent to said buffering element (Fig. 7, SHARED BUFFER MEMORY 21), based on said instruction of said interpreting part. See column 1-43. It would have been obvious to one the ordinary skill in the art at the time of the invention to modify the system Zheng et al., by using the features, as taught by Soumiya et al., in order to provide a reliable communication system by preventing a network congestion based on feedback control. See Soumiya et al., column 1, lines 7-9.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng et al. (US 5,745,477) in view of Soumiya et al. (US 6,094,418) as applied to claim 4 above, and further in view of Smith et al. (US 6,452,905).

Zheng et al. and Soumiya et al. disclose the claimed limitations above. Zheng et al. and Soumiya et al. do not disclose the following features: regarding claim 6, wherein said criterion is a filling level of said buffering part (column 12, lines 5-24). It would have

been obvious to one the ordinary skill in the art at the time of the invention to modify the system Zheng et al. and Soumiya et al., by using the features, as taught by Smith et al., in order to provide a reliable communication system by avoiding buffer overflow and consequent loss of data. See Smith et al., column 4, lines 21-23.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zheng and Ikeda, as in claim 10 above, and further in view of Smith et al. (US 6,452,905).

Zheng/Ikeda disclose the claimed limitations above. Zheng /Ikeda do not disclose the following features: regarding claim 12, wherein said criterion is a filling level of said buffering part (column 12, lines 5-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system Zheng et al., by using the features, as taught by Smith et al., in order to provide a reliable communication system by avoiding buffer overflow and consequent loss of data. See Smith et al., column 4, lines 21-23.

***Allowable Subject Matter***

7. Claims 13-15 are allowed.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lau et al. (US 6,400,688)

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M. Qureshi whose telephone number is (571) 272 3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Field Lynn can be reached on (571) 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**AFSAR QURESHI**
**PRIMARY EXAMINER**
3/22/2007